SOV/78-4-1-7/48

III. The Energetics of Solid Uranium Oxyhalides in the Light of the Substitution
·Principle

those of the solid chlorides and especially of the bromides
(with the exception of UCl_2)＝ With regard to energetics and the
exchange principle the situation of the oxychlorides has to be
regarded as intermediary between halides and oxides. The com-
parative proximity of the curves of the chlorides and oxides as
compared to the curves of the bromides and oxides can be ex-
plained by the fact that oxygen and chlorine have about the same
oxidation properties. The formation enthalpies of solid oxy-
halides are higher than those of the solid oxides and therefore
the oxyhalides have more energy. The exchange energetics are
determined by simple regularities with regard to the theory of
chemical compounds. The greater condensation energy of oxy-
chlorides shows that these compounds are more stable than
oxides and that they show less dismutation trend. There are
2 figures, 1 table, and 8 references, 5 of which are Soviet.

SUBMITTED: August 6, 1957

Card 2/2

`5(4), 21(1)`   SOV/78-4-1-8/48

AUTHORS: Shchukarev, S. A., Vasil'kova, I. V., Drozdova, V. M.,
              Frantseva, K. Ye.

TITLE: The Determination of the Formation Heat of UO_2Cl_{2aqu}, UO_2Br_{2aqu},
              $UO_2Cl_2 \cdot H_2O$, $UO_2Cl_2 \cdot 3H_2O$, $UO_2Br_2 \cdot H_2O$ and $UO_2Br_2 \cdot 3H_2O$
              (Opredeleniye teplot obrazovaniya UO_2Cl_{2aq}, UO_2Br_{2aq},
              $UO_2Cl_2 \cdot H_2O$, $UO_2Cl_2 \cdot 3H_2O$, $UO_2Br_2 \cdot H_2O$ i $UO_2Br_2 \cdot 3H_2O$)

ABSTRACT: The crystal hydrates of uranyl chloride and uranyl bromide
              were produced from anhydrous UO_2Cl_2 and UO_2Br_2 by treatment
              with inert gas containing steam at room temperature. The
              synthesized compounds were analyzed by the determination of
              uranium according to the Vanadate method. The chlorine and
              bromine content was determined. The determination of the
              solution heat of anhydrous uranyl chloride and uranyl bromide
              and their monohydrates and trihydrates in water at infinite
Card 1/3   dilution was carried out at 25°. The results are shown in

SOV/78-4-1-8/48

The Determination of the Formation Heat of UO_2Cl_{2aqu}, UO_2Br_{2aqu}, $UO_2Cl_2 \cdot H_2O$, $UO_2Cl_2 \cdot 3H_2O$, $UO_2Br_2 \cdot H_2O$ and $UO_2Br_2 \cdot 3H_2O$

table 2. The following values were given:

$\Delta H \ UO_2Cl_2 = -23.86 \pm 0.13$ kcal/mol

$\Delta H \ UO_2Cl_2 \cdot H_2O = -13.32 \pm 0.23$ kcal/mol

$\Delta H \ UO_2Cl_2 \cdot 3H_2O = -10.00 \pm 0.11$ kcal/mol

$\Delta H \ UO_2Br_2 = -33.28 \pm 0.32$ kcal/mol

$\Delta H \ UO_2Br_2 \cdot H_2O = -24.42 \pm 0.08$ kcal/mol

$\Delta H \ UO_2Br_2 \cdot 3H_2O = -21.51 \pm 0.12$ kcal/mol

On account of the values of the solution heat the formation heat of UO_2Cl_{2aqu}, UO_2Br_{2aqu}, $UO_2Cl_2 \cdot H_2O$, $UO_2Cl_2 \cdot 3H_2O$, $UO_2Br_2 \cdot H_2O$, and $UO_2Br_2 \cdot 3H_2O$ was calculated and summed up in table 3. The values of the formation heat of UO_2Cl_{2solid} and UO_2Br_{2solid} are as follows:

$\Delta H_{formation(298^\circ K)} UO_2Cl_{2solid} = -301.9$ kcal/mol

$\Delta H_{formation(298^\circ K)} UO_2Br_{2solid} = -281.6$ kcal/mol.

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SOV/78-4-1-8/48

The Determination of the Formation Heat of UO_2Cl_{2aqu}, UO_2Br_{2aqu}, $UO_2Cl_2 \cdot H_2O$, $UO_2Cl_2 \cdot 3H_2O$, $UO_2Br_2 \cdot H_2O$ and $UO_2Br_2 \cdot 3H_2O$

The dehydration heat of $UO_2Cl_2 \cdot 3H_2O$ was calculated according to the following equation: $UO_2Cl_2 \cdot 3H_2O = UO_2Cl_2 \cdot H_2O + 2H_2O_{gas}$. This value is in accordance with the value obtained by the tensimetric method (Ref 4). There are 3 tables and 6 references, 4 of which are Soviet.

SUBMITTED: September 5, 1958

Card 3/3

S/054/60/000/02/14/021
B022/B007

AUTHORS: Shukarev, S. A., Vasil'kova, I. V., Sharupin, B. N.

TITLE: The Investigation of the Halides of Molybdenum. IV. The
             Determination of the Formation Enthalpy of Molybdenum Di-
             and Trichloride

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii,
             1960, No. 2, pp. 112-120

√ B

TEXT: The present article comprises part of the material used in the
dissertation of B. N. Sharupin. It was found that in the oxydation of
molybdenum di- and trioxide in oxygen a mixture of molybdenum trioxide and
molybdenum dioxide is obtained. Table 1 gives the results obtained by
analysis of the molybdenum- and chlorine content in $MoCl_3$ and $MoCl_2$,
which are compared with the data calculated according to theory. The
calorimeter used for the determination of combustion enthalpy was
calibrated with metallic magnesium, which was obtained in spectroscopically
pure state from the Vsesoyuznyy alyuminiyevo-magniyevyy institut (All-Union
Aluminum-Magnesium Institute). The results of calibration are given in

Card 1/2

The Investigation of the Halides of Molybdenum.   S/054/60/000/02/14/021
IV. The Determination of the Formation Enthalpy   B022/B007
of Molybdenum Di- and Trichloride

Table 2. Also the effect produced by various quantities of chlorine in the
cylinder during combustion are investigated (Table 3). The enthalpy in
the combustion of $MoCl_3$ and $MoCl_2$ in oxygen at a pressure of 40 atmospheres
and at $25^\circ C$ was determined. The combustion products were determined by
dissolution in CCl_4 in which MoO_3 is not soluble and the oxychlorides are
easily soluble. The results are given in Table 4. The total quantity of
molybdenum and chlorine in the combustion products, as well as the quantity
of MoO_3 was titrimetrically determined, and herefrom the percentual
molybdenum- and chlorine content in oxychloride was calculated. The
results are given in Tables 5 and 6. The thermograms of the preparations
investigated (Fig.), the combustion-enthalpy of $MoCl_3$ (Table 7) and $MoCl_2$
(Table 8) are given. The results obtained for the formation enthalpy of
$MoCl_3$ and $MoCl_2$ are compared with the data previously obtained (Ref. 5)
by the authors for $MoCl_5$ and $MoCl_4$, as well as with the results obtained
by Brewer (Ref. 1) (Table 9). The preliminary results calculated for the
formation enthalpy of $MoCl_3$ and $MoCl_2$ are -93 ± 4 kcal/mole and
-69 ± 5 kcal/mole. There are 1 figure, 9 tables, and 12 references, 5 of
which are Soviet.

Card 2/2

VASIL'KOVA, I. V.

AUTHORS: Shchukarev, S. A., Novikov, G. I., Vasil'kova, I. V.,
              Suvorov, A. V., Andreyeva, N. V., Sharupin, B. N.,
              Bayev, A. K.

TITLE: The Thermodynamic Properties of Chlorides and Oxychlorides
              of Tungsten and Molybdenum

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 8,
              pp. 1650-1654

TEXT: By applying various methods, the authors wanted to check the
formation heats, formation entropies, and formation enthalpies in the case
of Mo- and W chlorides, published in western papers (Refs. 1, 2). They
investigated: WCl_6, $MoCl_5$, $WOCl_4$, $MoCl_4$, WO_2Cl_2 (obtained by a successive
chlorination of WO_3 and MoO_3 by means of CCl_4), MoO_2Cl_2 (obtained by the
reaction between MoO_2 and Cl_2); $MoCl_3$, WCl_4, WCl_5 (by the reduction of
$MoCl_5$ and WCl_6 by means of H_2), and $MoCl_2$, WCl_2 (obtained by dispropor-

Card 1/3

The Thermodynamic Properties of Chlorides   S/078/60/005/008/002/018
and Oxychlorides of Tungsten and Molybdenum   B004/B052

tion of $MoCl_3$ and WCl_4, and $MoOCl_4$). Two calorimetric methods were applied:
1) Comparison of the heat of solution of the investigated substance to the
heat of solution of a substance whose heat of formation is known (Table 1).
2) Combustion in oxygen (Table 2). Furthermore, the vaporization, depoly-
merization, dissociation, and disproportionation processes taking place in
a state of equilibrium, were spectrophotometrically and tensimetrically
investigated (Tables 3, 4). The enthalpies of formation, and partly also
the standard entropies of formation were calculated from the experimental
data. In Tables 5 (Mo compounds) and 6 (W compounds) they are compared
with the data given in Ref. 2 which were adopted almost unchanged by the
US National Bureau of Standards (Ref. 9). The values determined by the
authors are 1.4 – 1.7 times as high. Therefore, the dependence of the
free energy of formation of temperature is different altogether. This is
graphically represented in Fig. 1 (comparison of determined ΔH^o and ΔF^o
for tungsten compounds, with the data of the National Bureau of Standards),
and Fig. 2 (comparison of the ΔH_{form} of Cr, Mo, and W chlorides, with
the data of the National Bureau of Standards). There are 2 figures,
6 tables, and 9 references: 6 Soviet, 2 US, and 1 Dutch.

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The Thermodynamic Properties of Chlorides   S/078/60/005/008/002/018
and Oxychlorides of Tungsten and Molybdenum   B004/B052

ASSOCIATION: Leningradskiy gosudarstvennyy universitet Khimicheskiy
                fakul'tet
                (Leningrad State University Department of Chemistry)

SUBMITTED: May 6, 1959

Card 3/3

SHCHUKAREV, S.A.; VASIL'KOVA, I.V.; SHARUPIN, B.N.

Molybdenum halides. Part 4: Determining the enthalpy of formation of molybdenum dichloride and trichloride. Vest.LGU 15 no.10:112-120 '60.   (MIRA 13:5)
    (Molybdenum chloride) (Enthalpy)

SHCHUKAREV, S.A.; SMIRNOVA, Ye.K.; VASIL'KOVA, I.V.; LAPPO, L.I.

Enthalpies of formation of tantalum pentachloride and pentabromide.
Vest. LGU 15 no.16:113-119 '60.   (MIRA 13:8)
            (Tantalum chloride)   (Tantalum bromide)
                          (Enthalpy)

SHCHUKAREV, S.A.; VASIL'KOVA, I.V.; ORANSKAYA, M.A. [deceased];
TSINTSIUS, V.M.; SUBBOTINA, N.A.

Determination of the enthalpy of vanadium tribromide formation.
Vest LGU 16 no.16:125-129 '61.   (MIRA 14:8)
                 (Vanadium chloride)
                 (Enthalpy)

PERFILOVA, I.L.; KOZLOVA, I.V.; SHCHUKARLV, S.A.; VASIL'KOVA, I.V.

Enthalpy of vanadium oxychloride formation. Vest LGU 16
no.16:130-135 '61.   (MIRA 14:8)
                     (Vanadium chloride)
                     (Enthalpy)

VASIL'KOVA, I.V.; ZAYTSEVA, N.D.; SVALOV, Yu.S.

Molybdenum halides. Determination of the enthalpy of molybdenum
dioxydibromide. Vest LGU 16 no.16:140-142 '61.

(MIRA 14:8)

(Molybdenum bromide)
(Enthalpy)

SHCHUKAREV, S.A.; VASIL'KOVA, I.V.; ZAYTSEVA, N.D.

Study of molybdenum halides, determination of the enthalpy of
molybdenum tetrabromide formation. Vest LGU 16 no.22:127-129
'61.   (MIRA 14:11)

(Molybdenum halides) (Heat of formation)

SHCHUKAREV, S.A.; VASIL'KOVA, I.V.; SHARUFIN, B.N.

Molybdenum halides. Part 5: Thermodynamics of MoO_2Cl and MoO_2Cl_2.
H2O.   Vest LGU   16   no.22:130-134 '61.   (MIRA 14:11)
                              (Molybdenum halides)

SHARUPIN, B.N.; VASIL'KOVA, I.V.

Regularity in the enthalpy of formation of oxides and hydroxy-
chlorides. Zhur.ob.khim. 31 no.6:2077-2078 Je '61. (MIRA 14:6)

1. Leningradskiy gosudarstvennyy universitet imeni A.A.Zhdanova.
          (Metallic oxides) (Chlorides)   (Enthalpy)

S/054/62/COO/001/010/011
B121/B138

AUTHORS: Shchkarev, S. A., Vasil'kova, I. V., Korol'kov, D. V.,
                Nikol'skiy, S. S.

TITLE: Thermodynamic study of molybdenum dibromide

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii,
                no. 1, 1962, 148-153

TEXT: The actual isobaric specific heat of solid molybdenum dibromide and
the temperature dependence of entropy, enthalpy, and free energy of forma-
tion of solid $MoBr_2$ were calculated. In addition the thermal stability of
$MoBr_2$ was studied. $MoBr_2$ was diluted, after bromination of metallic
molybdenum in bromine vapor, with an inert gas at 600-700°C. The isobaric
specific heat was determined in a calorimetric apparatus with a sensitivity
of 0.00005°C. When solid $MoBr_2$ is heated to 800°C in a vacuum no melting
occurs, and there is disproportionation which mainly follows the equation
$MoBr_{2(solid)} \rightarrow 1/3\ Mo_{(KR)} + MoBr_{3(g)}$. The values for enthalpy, entropy,
and free energy obtained in solid $MoBr_2$ formation are as follows:

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Thermodynamic study of molybdenum ...

S/054/62/000/001/010/011
B121/B138

$$\Delta H^o_{298} \text{ formation } MoBr_{2(solid)} = 62.4 \text{ kcal/mole}$$

$$\Delta S^o_{298} \text{ formation } MoBr_2 = -31.4 \text{ e.u.}$$

$$\Delta F^o_{298} \text{ formation } MoBr_{2(solid)} = -53.0 \text{ kcal/mole.}$$

The temperature dependence of the specific heat of solid $MoBr_2$ from 298-773°K is expressed by the equation

$$\Delta c^o_p \text{ } MoBr_2 \text{ formation (solid)} = -5.80 + 30.2 \cdot 10^{-3}T + 0.63 \cdot 10^5 T^{-2} \text{ cal/mole·deg}$$

The temperature dependence of the actual specific heat of some chemically resistant glasses such as pyrex, pyrex chemical resistant glass and the chemically resistant Russian glass type Π-15 (P-15) studied and the following values were obtained: for pyrex $C_p = 0.174 + 3.60 \cdot 10^{-4}$ cal/g of degrees t; for pyrex chemical resistant glass $C_p = 0.178 + 3.13 \cdot 10^{-4}$ cal/g·degrees t, and for P-15 glass $C_p = 0.181 + 2.09 \cdot 10^{-4}$ cal/g·degrees t. There are 2 figures, 2 tables, and 7 references: 3 Soviet and 4 non-Soviet. The three references to

Card 2/3

Thermodynamic study of molybdenum ...

S/054/62/000/001/010/011
B121/B138

English-language publications read as follows: L. Brewer et al., Chemistry
and metallurgy of miscellaneous materials. N. Y. Mc. Graw-Hill, 1950.
F. Rossini, D. Wagman et al. Selected values of chemical thermodynamic
properties, US Gov. print. office, Washington, 27, 293,-1952. G. Morey.
The properties of glass. N. Y., Reinhold, 80, 216, 1954.

SUBMITTED: ·   June 25, 1960

Card 3/3

S/054/62/000/003/006/010
B101/B186

AUTHORS: Vasil'kova, I. V., Yefimov, A. I.

TITLE: Interaction in the system $MoCl_5$ - $FeCl_3$

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii,
             no. 3, 1962, 98 - 100

TEXT: The fusibility curve for this system was plotted by thermographic
investigation in the range 20-350°C. The system forms a simple eutectic,
m.p. 185°C, of the composition 93 mole% $MoCl_5$, 7 mole% $FeCl_3$. In the
range 50-60 mole% $MoCl_5$ the solidus line could be determined exactly
whereas the liquidus line was inaccurate. Tensimetric investigation with
a glass membrane as a null manometer in the range 20-300°C gave the
diagram p versus t. Down to liquidus temperature, the values obtained in
cooling agreed with those determined in heating. On further cooling an
elevated residual pressure of 100-200 mm Hg was observed due to gaseous
chlorine formed on dissociation of $MoCl_5$, which, being poorly soluble in
the solid phase, passes over into the gaseous phase on solidification.

Card 1/2

Interaction in the system...

S/054/62/000/003/006/010
B101/B186

The p-versus-t curve confirmed the complex composition of the gaseous phase of the $MoCl_5$ - $FeCl_3$ system. Gas pressure over a melt consisting of 25.5 mole% $MoCl_5$, 74.5 mole% $FeCl_3$, is only half the pressure over pure $MoCl_5$. There are 3 figures.

SUBMITTED: June 27, 1961

Card 2/2

S/078/62/007/006/001/024
B124/B138

AUTHORS: Shchukarev, S. A., Smirnova, Ye. K., Vasil'kova, I. V.,
Borovkova, N. I.

TITLE: Formation enthalpy of niobium pentabromide and oxytribromide

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 6, 1962, 1213-1215

TEXT: This was determined from their measured hydrolysis enthalpies
for a newly developed method of separating niobium and tantalum by
fractionating their bromine compounds. $NbBr_5$ free from oxybromide was
produced by making niobium pentoxide react with CBr_5 in sealed ampoules
evacuated with a forepump. A mixture of Nb_2O_5, $NbOBr_3$, and unreacted CBr_4
was obtained by 18-20 hr heating at $200^\circ C$. The ampoule was cooled, the
gaseous reaction products were removed, the ampoule was sealed again and
heated for 8-10 hr at $360-380^\circ C$. The reaction products CO, $COBr_2$, and Br_2
were drawn off with a forepump at $70^\circ C$. The resulting $NbBr_5$ was purified

Card 1/2

Formation enthalpy of niobium ...

S/078/62/007/006/001/024
B124/B138

from Nb_2O_5 by double sublimation in vacuo. $NbOBr_3$ was produced by oxidation of $NbBr_5$ at 150-160°C and bromination of Nb_2O_5 with CBr_4 at 190-200°C. The heat released during hydrolysis of the bromides was determined calorimetrically at 26°C to be 68.3 ± 0.9 kcal/mole ($NbBr_5$) and 34.6 ± 0.6 kcal/mole ($NbOBr_3$). The enthalpies calculated on the basis of published data were: $\Delta H^o_{NbBr_5}$ = -135.2 ± 1.2 kcal/mole and

$\Delta H^o_{NbOBr_3}$ = -179.3 ± 1.0 kcal/mole. There are 3 tables. The three most important English-language references are: K. M. Alexander, F. Fairbrother, J. Chem. Soc. (London), p. 223 (1949); F. Fairbrother, A. H. Cowley, N. Scott, J. of the Less. Common Metals, 1, 206 (1959); G. Z. Humpley, J. Amer. Chem. Soc. 76, 978 (1954).

SUBMITTED: July 14, 1961

Card 2/2

SHCHUKAREV, S.A.; SMIRNOVA, Ye.K.; VASIL'KOVA, I.V.; BOROVKOVA, N.I.

Enthalpy of formation of niobium pentabromide and oxytribromide.
Zhur.neorg.khim. 7 no.6:1213-1215 Je '62.   (MIRA 15:6)
            (Niobium bromides) (Heat of formation)

SHCHUKAREV, S.A.; VASIL'KOVA, I.V.; PERFILOVA, I.L.; CHERNYKH, L.V.

Enthalpy of vanadium trichloride formation. Zhur.neorg.khim. 7 no.7:
1509-1511 Jl '62.   (MIRA 16:3)
          (Vanadium chloride)   (Heat of formation)

SHCHUKAREV, S.A.; VASIL'KOVA, I.V.; KOROL'KOV, D.V.; NIKOL'SKIY, S.S.

Thermodynamic study of molybdenum dibromide. Vest. LGU 17 no.4:
148-155 '62.   (MIRA 15:3)
          (Molybdenum bromides--Thermal properties)

VASIL'KOVA, I.V.; YEFIMOV, A.I.

Interaction in the systems molybdenum with pentachloride - alkali
metal chloride. Zhur.ob.khim. 32 no.8:2742-2743 Ag '62.
(MIRA 15:9)

(Molybdenum chloride) (Alakli metal chlorides)

S/080/62/035/007/002/013
D267/D307

AUTHORS: Shchukarev, S.A., Vasil'kova, I.V. and Shalukukhina, L.M.

TITLE: Thermodynamic analysis of the chlorination of molyb-
                 dates with the gaseous mixture of chlorine with sul-
                 fur chlorides

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 7, 1962,
                 1459-1465

TEXT: It was shown earlier that a mixture of Cl_2 with sul-
phur chlorides begins to react with calcium and lead molybdates and
with MoO_3 at about 160-170°C, giving rise to volatile Mo chlorides,
chlorides of the corresponding metal and SO_2. To evaluate the pro-
cesses involved from the thermodynamic standpoint and to find there-
by the most probable reactions of chlorination, the values of entha-
lpies, free energies and logK were calculated in the interval 293 -
800°K for all possible reaction schemes between $CaMoO_4$, $PbMoO_4$ and
MoO_3, on the one hand, and mixtures of Cl_2 with S_2Cl_2 (or pure Cl_2),

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Thermodynamic analysis ...   S/080/62/035/007/002/013
                                            D267/D307

on the other. Most of these reactions are exothermic; the analysis
of the obtained thermodynamic magnitudes yielded the most probable
reaction schemes and showed that the chlorination with the mixture
of Cl_2 with sulphur chlorides is more advantageous than chlorination
with Cl_2 alone   There is 1 figure and 1 table.

SUBMITTED   May 29 1961

Card 2/2

SHCHUKAREV, S.A.; VASIL'KOVA, I.V.; KOROL'KOV, D.V.

 Interaction of di-, tri-, and tetrabromides of titanium with the
bromides of rubidium and cesium. Zhur. neorg. khim. 8 no.8:1933
1937 Ag '63.   (MIRA 16:8)

  (Titanium bromides) (Alkali metal bromides)

VASIL'KOVA, I.V.; ZAYTSEVA, N.D.; SHAPKIN, P.S.

Interaction of tungsten hexa- and pentachloride with sodium and potassium chlorides. Zhur. neorg. khim. 8 no.10:2360-2364 O '63.   (MIRA 16:10)

(Tungsten chlorides)   (Alkali metal chlorides)

VASIL'KOVA, I.V.; ZAYTSEVA, N.D.; PETROVA, V.A.

Systems $RbCl - WCl_6$, $RbCl - WCl_5$, $CsCl - WCl_6$, and $CsCl - WCl_5$.
Zhur. neorg. khim. 8 no.10:2369–2371 O '63.   (MIRA 16:10)

(Tungsten chlorides) (Alkali metal chlorides) (Systems (Chemistry))

SHCHUKAREV, S.A.; SMIRNOVA, Ye.K.; VASIL'KOVA, I.V.

Thermographic analysis of the system RbCl -- CbOCl$_3$ and CsCl - NbOCl$_3$. Vest. LGU. 18 no.16:132-133 '63.   (MIRA 16:11)

SHCHUKAREV, S.A.; SMIRNOVA, Ye.K.; VASIL'KOVA, I.V.; KOTOVA, M.S.

Enthalpy of formation of sodium and potassium chlorotanta-
lates. Vest. LGU 18 no.22:174-176 '63.   (MIRA 17:1)

VASIL'KOVA, I.V.; YEFIMOV, A.I.; PITIRIMOV, B.Z.

Enthalpy of the formation of Na_3CrCl_6 , K_3CrCl_6 , and $K_3Cr_2Cl_9$. Zhur. neorg. khim. 9 no.3:754-755 Mr '64.

(MIRA 17:3)

SMIRNOVA, Ye.K.; VASIL'KOVA, I.V.; KUDRYASHOVA, N.F.

Enthalpy of the formation of the chloroniobates and chlorotantalates
of rubidium and cesium. Zhur. neorg. khim. 9 no.2:489-490 F'64.
                                                    (MIRA 17:2)

VASIL'KOVA, I.V.; YEFIMOV, A.I.; PITIRIMOV, B.Z.

Complex formation in the systems MeCl - CrCl$_3$ (Me- an alkaline metal).
Zhur.neorg.khim. 9 no.4:900-904· Ap '64.   (MIRA 17:4)

SHCHUKAREV, S.A.; VASIL'KOVA, I.V.; KOROL', A.V.

Enthalpy of formation of niobium and cesium bromides.
Zhur. neorg. khim. 9 no.8:1810-181 Ag '62.

(MIRA)

SMIRNOVA, Ye.K.; VASIL'KOVA, I.V.

Oxychloroniobates of alkali metals of the composition $Me_2^I NbOCl_5$.
Vest. LGU 19 no.4:164-165 '64.   (MIRA 17:3)

SMIRNOVA, Ye.K.; VASIL'KOVA, I.V.

    Chloroniobates (IV) of alkali metals. Vest. LGU 20 no.10:161-162
    '65.   (MIRA 18:7)

SHCHUKAREV, S.A.; VASIL'KOVA, I.V.; MARTINOK, G.M.

Heats of formation of solid chloride complexes of manganese,
iron, cobalt, copper, and zinc. Vest. LGU 20 no.16:145-147 '65.
(MIRA 18:9)

MARTYNOVA, N.S.; VASIL'KOVA, I.V.; SUSAREV, M.P.

Evaluation of the concentration region of the location of
ternary eutectics in common eutectic systems according to
the data on binary eutectics and components. Vest.LGU 20
no.22:96-100 '65.   (MIRA 18:12)

KUDRYASHOVA, Z.P.; VASIL'KOVA, I.V.; SUSAREV, M.P.

Application of differential equations of solid phase solubility
isotherms in an ideal melt for evaluating the reliability of
experimental data; system NH_4NO_3 - KNO_3 - $Pb(NO_3)_2$. Zhur.
prikl. khim. 38 no.10:2252-2257 O '65.   (MIRA 18:12)

1. Submitted July 8, 1963.

VASIL'KOVA, I.V.; KRIVOUSOVA, I.V.; SUSAREV, M.P.; TOLKACHEV, S.S. [deceased]

    X-ray study of the mutual solubility of solid phases in the
ternary systems KCl- NaCl - CrCl₃ and KCl - NaCl - VCl₃.
Vest. LGU 20 no.16:126-132 '65.   (MIRA 18:9)

KRIVOUSOVA, I.V.; VASIL'KOVA, I.V.; SUSAREV, M.P.

Thermographic study of the system Cl_3 - NaCl - KCl Zhur. prikl.
khim. 37 no.11:2348-2353 N '64   (MIRA 18:1)

KRIVOUSOVA, I.V.; VASIL'KOVA, I.V.; SUSAREV, M.P.

Concentration regions of ternary eutectics in the system
NaCl - KCl - K_3VCl_6. Zhur. prikl. khim. 37 no.10:2198-2203
O '64.   (MIRA 17:11)

VASIL'KOVA, K.I.

Correction of scoliosis before fixing the spine. Ortop.travm. i
protez. 17 no.6:91 N-D '56.   (MLRA 10:2)

1. Iz kafedry ortopedii i protezirovaniya (zaveduyushchiy --
zasluzhennyy deyatel' nauki , professor M.I.Kuslik) Gosudarstvennogo
Instituta dlya usovershenstvovaniya vrachey i ortopedicheskogo
otdeleniya (zaveduyushchiy - professor Ya.S.Yusevich) Leningradskogo
nauchno-issledovatel'skogo instituta travmatologii i ortopedii
(direktor - professor V.S.Balakina)
        (SPINE--ABNORMITIES AND DEFORMITIES)

VASIL'KOVA, K.I., kand.med.nauk

Vreden's "inhibition of flexors" in treating spastic paresis.
Ortop.travm. i protez. 18 no.4:66 Jl-Ag '57.   (MIRA 11:1)

1. Iz kafedry ortopedii i protezirovaniya (zav. - zasl. deyatel'
nauki prof. M.I.Kuslik) Gosudarstvennogo instituta dlya usovershen-
stvovaniya vrachey (dir. - prof. N.I.Blinov) i ortopedicheskogo
otdeleniya (zav. - prof. Ya.S.Yusevich) Leningradskogo nauchno-
issledovatel'skogo instituta travmatologii i ortopedii (dir. -
prof. V.S.Balakina)
        (PARALYSIS)

VASIL'KOVA, K.I.,

Bone plastic surgery in scoliosis following preliminary stretching.
Khirurgiia 34 no.7:93-98 Jl '58   (MIRA 11:9)

1. Iz ortopedicheskogo otdeleniya (zav. - prof. Ya.S. Yusevich)
Leningradskogo instituta travmatologii i ortopedii (dir. - prof.
V.B. Balanina) i kafedry ortopedii (zav. - prof. M.I. Kuslik)
Leningradskogo Gosudarstvennogo instituta dlia spetsializatsii
i usovershenstvovaniya vrachey.
          (SCOLIOSIS, surgery
              plastic surg. after preliminary stretching,
              technic (Rus))

VASIL'KOVA, K.I.

Determination of the force for correcting scoliosis in spine traction. Trudy Len.gos.nauch.-issl.inst.travm.i ortop. no.7: 177-182 '58.   (MIRA 13:6)
(SPINE--ABNORMITIES AND DEFORMITIES)

VASIL'KOVA, K.I.

Modification of the Kofmann-Shants operation (transposition of the fibular and posterior tibial muscles in talipes equinus). Trudy Len.gos.nauch.-issl.inst.travm.i ortop. no.7:314-315 '58.   (MIRA 13:6)

1. Iz ortopedicheskogo otdeleniya Leningradskogo gosudarstvenno-go nauchno-issledovatel'skogo instituta travmatologii i orto-pedii.
    (FOOT—ABNORMITIES AND DEFORMITIES)

VASIL'KOVA, K.I., kand.meditsinskikh nauk

Late results of osteoplastic fixation of the spine in severe forms
of scoliosis. Ortop. travm. i protez, 21 no. 7:19-23 Jl '60.

1. Iz Ortopedicheskoy kliniki (zav. kafedroy - zasluzhennyy devatel
nauki prof. M.I. Kuslik) Leningradskogo ordena Lenina Instituta
usovershenstvovaniya vrachey (dir. - prof. N.I. Blinov)
i ortopedicheskogo otdeleniya (zav. - prof. Ya.S. Yusevich)
Leningradskogo instituta travmatologii i ortopedii (dir. -
prof. V.S. Balakina).
                        (SPINE—SURGERY)

VASIL'KOVA, K. I., kand. med. nauk,(Leningrad 101, Kronverkskaya ul.
        d. 1, kv. 5)

Apparatus for spinal redressement and its use in scoliosis. Ortop.,
travm. i protez. no.11:16-19 '61.   (MIRA 14:12)

1. Iz kafedry ortopedii i protezirovaniya (zav. - zasluzh. deyatel'
nauki prof. M. I. Kuslik) Gosudarstvennogo ordena Lenina instituta
usovershenstvovaniya vrachey (dir. - dotsent A. Ye. Kiselev) i
ortopedicheskogo otdeleniya (zav. - prof. Ya. S. Yusevich) Lenin-
gradskogo nauchno-issledovatel'skogo instituta travmatologii i
ortopedii (dir. - prof. V. S. Balakina)

            (SPINE--ABNORMITIES AND DEFORMITIES)

VASIL'KOVA, K.I., dotsent

Osteoid osteoma at an unusual site. Ortop., travm. i protez. no.9:
80-81 '62.   (MIRA 17:11)

1.   deyatel' nauki prof.
usovershenstvovaniya vrachey
i ortopedicheskogo otdeleniya (zav.   prof. Ya.S. Yusevich) Lenin-
gradskogo instituta travmatologii . ortopedii.

VASIL'KOVA, L.P.; Prinimal uchastiye SHALDENKOV, I.P.

Biochemical purification of the industrial waste waters
from the production of vinyl acetate and the polymers based
on it. Trudy VNIIT no.12:290-305 '63.   (MIRA 18:11)

VASIL'KOVA, M.V., starshiy nauchnyy sotrudnik

    Burning and shedding of leaves in fruit trees. Zashch. rast.
ot vred. i bol. 7 no.10:33-34   O '62.   (MIRA 16:6)

    1. Melitopol'skaya opytnaya stantsiya sadovodstva.
        (Plants, Effect of chemicals on)

VASIL'KOVA, N.N.; TEREMETSKAYA, A.G.; SHATSKAYA, V.T.

Tin deposits associated with subvolcanic bodies. Sov.geol.
2 no.10:81-97 O '59.   (MIRA 13:4)

1. Vsesoyuznyy institut mineral'nogo syr'ya (VIMS).
        (Sikhote-Alin' Range—Tin ores)

3(5)   SCV/11-59-5-9/14

AUTHOR: Vasil'kova, N.N.

TITLE: The Metastable Potassium Feldspar and Zeolite in
               Ores of the Dal'netayezhnoye Deposit (Metastabil'-
               nyy kaliyevyy polevoy shpat i tseolit v rudakh Dal'-
               netayezhnogo mestorozhdeniya)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya geologicheskaya,
               1959, Nr 5, pp 113-118 (USSR)

ABSTRACT: The sulfite-cassiterite tin ores of the Dal'netayezh-
               noye deposits in the Primor'ye (the Soviet far eastern
               maritime region) were formed near the earth's sur-
               face and far from a magmatic hearth. According to the
               All-Union Institute of Mineral Raw Materials (VIMS),
               there is a close dependence of conditions of for-
               mation of sulfide-cassiterite deposits on the depth
               of formation of intrusive rocks. In consequence, all
               such deposits are divided into three groups 1) de-
Card 1/5   posits territorially and genetically closely linked

SOV/11-59-5-9/19

The Metastable Potassium Feldspar and Zeolite in Ores of the
Dal'netayezhnoye Deposit.

with magmatic bodies presently outcroped; 2) deposits
not directly linked with a magmatic source, but
having in their limits aureols of contact-metaso-
matic transformations with regular mineral changes
occuring with an increasing distance from them; 3)
deposits having neither direct nor indirect links
with intrusive rocks. Deposits belonging to the
first two groups were formed under conditions of
sharp changes of temperature: high initial tem-
perature in the process of crystallization of ores
and lower temperature during the ore formation
process. This explains the occurence of peculiar
mineral forms and mineral associations, as observed
in the Dal'netayezhnyye deposits. These deposits
present a complicated systems of mineralized crush
zones in the sandstone-slate Mesozoic stratum.
Magmatic formations of the deposits consist of

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The Metastable Potassium Feldspar and Zeolite in Ores of the
Dal'netayozhnoye Deposit.

large dykes of granite-porphyres, various porphyri-
tes and lamprophyres. The formation of ores occured
in the following main stages of mineralization: 1)
arseno-pyrite quartziferous with potassium feldspar;
2) pyrrhotinic; 3) pyrite-ankeritic 4) the quartz-
adular stage, ended with the deposition of late
pyrite and calcite. The author describes the asso-
ciation of potassium feldspar and zeolite with cas-
serite, never before described. There are 2 genera-
tions of potassium feldspar: the first associated
with quartz-casserite ores; second intergrowing with
the later oreless quartz. Both generations have iden-
tical physical, optical and other features. The re-
sults of all analyses are given. According to the
author, these analyses show a relation between po-
tasium feldspar and the sandine-like form, which
in the process of crystallization of ores, is re-
placed by adular. The sandine is a high temperature

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SOV/11-59-5-9-/14

The Metastable Potassium Feldspar and Zeolite in Ores of the
Dal'netayezhnoye Deposit

variety of the orthoclase. The potassium zeolite-
leonhardite is the principal component of the cas-
erite-zeolite ores filling one of the vein of the
Dal'netayezhnoye deposit, and is also found in
pockets in sandstone of the deposits. The zeolite
in these ores is closely associated with quartz,
cassiterite, arseno-pyrites and calcium-containing
minerals: actinolite, fluorite, axinite and epi-
dotes. In regard to all these minerals, the zeolite
is xenomorphic, filling the spaces between the
grains or enclosing them like poikilite phenocrysts.
These associations, as well as the metastable
varieties of potassium feldspar, are indicators of
sharp changes of temperature during the ore for-
mation process. These changes are explained by
specific features of the genesis of the Dal'netay-
ezhnoye deposits, probably formed near the plu-
Card 4/5   tonic magmatic sources, their upper part being

SOV/11-59-5-9/14

The Metastable Potassium Feldspar and Zeolite in Ores of the
Dal'netayezhnoye Deposit

near the earth's surface. The following scientists
are mentioned by the author: A.Ye. Fersman, S.S.
Smirnov, G.A. Sidorenko, Academician D.S. Belyankin,
and L.Polupanova. There are 3 tables, 2 graphs, 2
photographs and 3 references, 2 of which are Soviet
and 1 American.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut min-
eral'nogo syr'ya (the All-Union Scientific Research
Institute of Mineral Raw Material), Moscow.

SUBMITTED: July 15 1957

Card 5/5

VASIL'KOVA, N.N.; KUZ'MIN, V.I.

Alteration of datolite bearing rocks in the zone of hypogenesis.
Geol.rud.mestorozh. no.6:68-71 N-D '61.   (MIRA 14:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo
syr'ya.
                    (Datolite)

VASIL'KOVA, N. N.

Sibirskite, a new calcium borate. Zap. Vees. min. ob-va 91 no.4:
455-464 '62.   (MIRA 15:10)

1. Vsesoyuznyy institut mineral'nogo syr'ya (VIMS), Moskva.

(Calcium borates)

VASIL'KOVA, Nina Nikitichna; SOLOMKINA, Sof'ya Grigor'yevna;
KROTOVA, I.Ye., ved. red.; ROZHKOVA, Ye.V., nauchn. red.

[Typomorphic characteristics of fluorite and quartz; on
the basis of a study of their physical and physicochemical
properties] Tipomorfnye osobennosti fliuorita i kvartsa;
na osnovanii izucheniia ikh fizicheskikh i fiziko-khimi-
cheskikh svoistv. Moskva, Nedra, 1965.   132 p.
(MIRA 18:10)

LOMONOSOV, Ivan Grigor'yevich, starshiy nauchnyy sotrudnik; ARYKIN,
    Ivan Grigor'yevich; VASIL'KOVA, Regina Yevgen'yevich; ZHURENKOV,
    Yevgeniy Aleksandrovich; LEBEDEV, Mikhail Petrovich; OVCHINNI-
    KOVA, Dina Mikhaylovna; YUZVUK, Vladimir Yefimovich. Prinimali
    uchastiye: ARYKIN, I.G., starshiy nauchnyy sotrudnik; YUZVUK, V.Ye.,
    starshiy nauchnyy sotrudnik; LEBEDEV, M.P., starshiy nauchnyy sotrudnik;
    OVCHINNIKOVA, D.M., mladshiy nauchnyy sotrudnik; VASIL'KOVA, R.Ye.,
    mladshiy nauchnyy sotrudnik; ZHURENKOV, Ye.A., mladshiy nauchnyy sotrud-
    nik. ZHURAVLEV, B.A., red.izd-va; PARAKHINA, N.L., tekhn.red.

[Album of designs of dams to be built on timber floating rivers]
Al'bom konstruktsii lesosplavnykh plotin. Moskva, Goslesbumizdat,
1959. 212 p.   (MIRA 13:7)

1. TSentral'nyy nauchno-issledovatel'skiy institut lesosplava (for
all, except Zhuravlev, Parakhina).
    (Lumber--Transportation)   (Dams)

L 28849-66   EWP(k)/EWT(m)/T/EWP(v)/EWP(t)/ETI   JD/HM

ACC NR: AP6013819   (A)   SOURCE CODE: UR/0356/65/000/012/0049/0051

AUTHOR: Mamuliya, G. (Engineer); Vasil'kova, Ye. (Engineer)   38
                                                                      B

ORG: State All-Union Scientific Research Institute of Technology for Repair and Operation in Machinery and Tractor Depot (Gosudarstvennyy vsesoyuznyy nauchno-issledovatel'skiy tekhnologicheskiy institut remonta i ekspluatatsii mashinno-traktornogo parka)

TITLE: Welding of machine parts and assemblies in carbon-dioxide gas

SOURCE: Tekhnika v sel'skom khozyaystve, no. 12, 1965, 49-51

TOPIC TAGS: welding equipment,   repair welding, arc welding, automatic welding, spot welding, welding technology /A-547-R welding equipment, A-537 welding equipment, EZG-4 welding equipment

ABSTRACT: Welding methods used for repairing agricultural machines are discussed.   The most effective method is a semi-automatic electric arc welding with a carbon-dioxide gas shielding.   The equipment used for this kind of welding is described.   A welding device of A-547-R type is applied to thicknesses up to 3 mm while thicker parts are welded by A-537 type.   These devices consist of an arc torch, electrode-wire feed mechanism, control panel, carbon-dioxide gas cylinder, preheater,

UDC: 621.791.037:661.97

Card 1/2

L 28849-66

ACC NR: AP6013819   0

rectifier, etc. The A-537 type is equipped with a water-cooled torch.
The A-547-R type arrangement is schematically illustrated. A special
arrangement for spot welding and electric riveting is designed by using
an electric-arc riveter of EZG-4 type. The essential data on these
three types of welding equipment is summed up in a table. The recom-
mended welding data for various metal thicknesses are also tabulated.
The welding technique applied to various machine and tractor parts is
briefly discussed and some efficient methods are recommended. Orig.
art. has: 3 tables and 1 figure.

SUB CODE: 13 / SUBM DATE: None

Card 2/2

A

AUTHOR: ALGAY, M. G.; VASILKOVA, I.

TITLE: Changes in the carotenoids : Chlorophyll ratio in blue-green algae during
their use in research ...

SOURCE: AN SSSR, Doklady, v. 14? no 6   19 5 1200-1211

TOPIC TAGS: algae, chlorophyll, plant chemistry

Abstract: The authors used two bacteriological and microbiologically pure

Prepared ... cultured these to star ...   ... with aid ...
... the epidermis and the ... changes are ... different ...
some evidence of which is provided ... ... the increased content ...

Card 1 2

L 6357-65

ACCESSION NR: AP5017372

carotenoids in the presence of ethyl alcohol with a decrease in the carotenoid:
chlorophyll ratio. The oxidizing utilization of glucose is probably to be

Orig. art. has 2 tables.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University)

SUBMITTED: 23Jun64   ENCL: CO   SUB CODE: LS

NO REF SOV: 007   OTHER: 002   JPRS

Card 2/2

GUSEV, M.V.; VASIL'KOVA, Ye.I.

Changes in the composition and content of pigments of blue-green algae in the presence of additional carbon and nitrogen sources. Mikrobiologiia 34 no.3:477-482 My-Je '65.

(MIRA 18:11)

1. Biologo-pochvennogo fakul'teta Moskovskogo gosudarstvennogo universiteta imeni M.V.Lomoncsova.

L 27420-66   EWT(1)   SCTB   DD   SOURCE CODE: UR/0220/65/034/003/0477/0482

ACC NR: AP6017696   30

AUTHOR: Gusev, M. V.; Vasil'kova, Ye. I.   B

ORG: Soil Biology Faculty, Moscow State University im. M. I. Lomonosov (Biologo-
pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta)

TITLE: Change in composition and pigment content of blue-green algae in the presence
of additional sources of carbon and nitrogen

SOURCE: AN SSSR. Mikrobiologiya, v. 34, no. 3, 1965, 477-482

TOPIC TAGS: algae, chlorophyll, protein, plant chemistry, plant metabolism

ABSTRACT: Phycoerythrin appeared in the cells of the blue-green alga
Anabaena variabilis grown on a medium with additional sources of carbon
(glucose, ethanol, or acetate) and nitrogen (nitrate or ammonium salts).
This happened even at light intensities which are insufficient for the
production of this pigment in a mineral medium without additional sources
of nitrogen and carbon. In a similar situation no changes were noted in
the composition of Hapalosiphon fontinalis pigments.
     When Anabaena variabilis and Hapalosiphon fontinalis were grown in the
presence of additional sources of carbon and nitrogen, the following changes
took place in the content and ratios of the pigments: (1) the content of
all pigments decreased in the presence of nitrate; (2) the content of
bilichromoproteins and chlorophyll A increased in the presence of ammonium
                                                           UDC: 582.232-11

Card 1/2

L 27420-66

ACC NR: AP6017696   O

as did the bilichromoprotein: chlorophyll A ratio; (3) the content of
chlorophyll A and bilichromoproteins increased in the presence of additional
carbon compounds as did the bilichromoprotein: chlorophyll A ratio.
      The carotenoid: chlorophyll A ratio decreased in the presence of
additional carbon compounds in Anabaena variabilis, but not in Hapalosiphon
fontinalis. Orig. art. has: 2 figures and 3 tables. [JPRS]

SUB CODE: 06 / SUBM DATE: 22Jul64 / ORIG REF: 006 / OTH REF: 003

Card 2/2

LEONT'YEV, M.N.; prinimali uchastiye: BAKINA, K.V.; KISELEVA, O.M.;
    KRAVETS, Ye.A.; KARLOVA, S.A.; DUBNOVA, S.S.; SEMENYAKO, A.G.;
    ZAMORINA, Z.T.; MILANINA, Ye.F.; KOZEL'SKAYA, O.P.; VASIL'KOVA,
    Z.I.; ZOTOV, S.N.; YERMOLOV, A.I.; BEZLYUDNAYA, V.V.; NAZAROV,
    B.A.; ASHIKHMINA, V.M.; ASYAKINA, A.N.; TROITSKAYA, B.I.;
    SKVORTSOV, A.V., red.; LESHAKOV, I.T., tekhn. red.

[The economy of Orlov Province; a statistical manual] Narodnoe
khoziaistvo Orlovskoi oblasti; statisticheskii sbornik. Orel,
Gosstatizdat, 1960. 281 p.   (MIRA 14:5)

1. Orel(Province) Statisticheskoye upravleniye. 2. Zamestitel'
nachal'nika statisticheskogo upravleniya Orlovskoy oblasti
(for Leont'yev). 3. Statisticheskoye upravleniye Orlovskoy ob-
lasti (for all except Leshakov) 4. Nachal'nik statisticheskogo
upravleniya Orlovskoy oblasti (for Skvortsov)
                (Orlov Province—Statistics)

ASHBEL', S.I., prof.; POKROVSKAYA, E.A.; SOKOLOVA, V.G., kand.biol.nauk;
VASIL'KOVA, Z.Ye., kand.med.nauk

Effectiveness of oletetrin treatment of infectious inflammatory
diseases of respiratory organs and intestines. Sov.med. 28
no.12:91-95 D '65.   (MIRA 18:12)

1. Klinicheskiy otdel (zav. - prof. S.I.Ashbel') Gor'kovskogo
nauchno-issledovatel'skogo instituta gigiyeny truda i professio-
nal'nykh zabolevaniy i kafedra detskikh infektsiy (zav. - dotsent
N.N.Fayerman) Gor'kovskogo meditsinskogo instituta.

SEMENOV, M.S.; VASIL'KOVICH, L.A.

Using lignin as a fuel. Gidroliz i lesokhim.prom. 13 no.2:15-17
'60.   (MIRA 13:6)

1. Tavdinskiy gidroliznyy zavod.
        (Lignin)

SMORKALOV, V.T., red.; KARDASH, F.G., st. varshchik, red.;
        IVANOVA, V.Ya., red.; SUDAKOVA, Yu., red.; VASIL'KOVICH,
        L.A., red.; GETLING, Yu., red.

[Plant of miraculous transformations; everyday work of
the employees of the Tavda Hydrolysis Plant] Zavod chu-
desnykh prevrashchenii; trudovye budni kollektiva Tavdin-
skogo gidroliznogo zavoda. Sverdlovsk, Sredne-Ural'skoe
knizhnoe izd-vo, 1964. 50 p.   (MIRA 18:4)

1. Direktor Tavdinskogo gidroliznogo zavoda, Ural (for
Kardash). 2. Predsedntel' zavodskogo komiteta Tavdinskogo
gidroliznogo zavoda, Ural (for Ivanova). 3. Sekretar'
Vsesoyuznogo Leninskogo Kommunisticheskogo soyuza molodezhi
(for Sudakova). 4. Nachal'nik planovogo otdela Tavdinskogo
gidroliznogo zavoda, Ural (for Vasil'kovich).

BORISOVA, A.G.; BOCHANTSEV, V.P.; BUTKOV, A.Ya., dotsent; VASIL'KOVSKAYA, A.P.;
    VVEDENSKIY, A.I., dotsent; GOLODKOVSKIY, V.L.; GONCHAROV, N.F.
    [deceased]; DROBOV, V.P., professor; KOROTKOVA, Ye.Ye.; KOSTINA, K.F.;
    KUDRYASHEV, S.N. [deceased]; LAKHINA, M.M.; LINCHEVSKIY, I.A.;
    MIRONOV, B.A. [deceased]; PAZIY, V.K.; POYARKOVA, A.I.; PROTOPOPOV,
    G.F.; SUMNEVICH, G.P. [deceased]; KHAL'ZOVA, K.P.; YUZEPCHUK, S.V.;
    KOROVIN, Ye.P., professor, glavnyy redaktor; ZAKIROV, K.Z., professor,
    redaktor; SHIPUKHIN, A.Ya, redaktor izdatel'stva

[The glora of Uzbekistan] Flora Uzbekistana. Glav. red. E.P.Korovin.
Tashkent, Izd-vo Akademii nauk UzSSR. Vol.3. 1955. 825 p. (MLRA 9:10)

1. Deyatvitel'nyy chlen AN UzSSR (for Korovin)
        (Uzbekistan--Botany)

PIS'MAN, I.I.; DALIN, M.A.; VASIL'KOVSKAYA, G.V.

Dimerization of ethylene on nickel and cobalt catalysts.
Azerb. khim. zhur. no.3:69-74 '64.   (MIRA 18:5)

S/130/61/000/005/003/005
A006/A101

AUTHORS: Sviridenko, P. P., Kazachkov, Ye. A., Vasil'kovskaya, N. P., Lesenko, I. I.

TITLE: Riser with an air gap in the wall

PERIODICAL: Metallurg, no. 5, 1961, 15 - 18

TEXT: Risers used at "Azovstal'" for delayed cooling of feed head metal, are lined with chamotte bricks. The lining is 120 mm thick. Heat insulating conditions can be improved by employing insulated bricks, and the best means of insulation for this purpose is air. Investigations were made to use the heat insulating properties of an air gap in the lining of risers. The use of shaped bricks, which is the simplest method employed at the KMK, was not possible at Azovstal' due to the lack of a ceramic shop. Therefore, standard brick dimensions and shapes had to be employed. The existing design of risers was modified by two methods: 1. In the shell of a conventional riser, 8 - 10 mm thick steel sheets were inserted and fastened by electric welding process in such a manner, that an internal shell was formed that was separated from the external shell by a 70 mm wide gap. The gap was lined with chamotte bricks. 2) A special riser was employed with horizontal ribs in the center of the shell height, supporting

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Riser with an air gap in the wall

S/130/61/000/005/003/005
A006/A101

the bricks. Between the brick lining and the shell there was a 60 mm wide air gap. Heat balances were drawn up for conventional and experimental risers and for this purpose the distribution of temperature along the wall thickness of the risers was determined. Heat losses in the risers are characterized as follows:

	Riser with conventional lining	Riser with air gap
Total heat losses through the feed head at the end of ingot solidifying, in %:	100	59
of which: losses to the surrounding medium	22	45
absorbed by the refractories of the risers	56	24
absorbed by the riser shell	22	31

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Riser with an air gap in the wall

S/130/61/000/005/003/005
A006/A101

Improved heat insulation reduces the metal volume in the feed head and increases the ingot weight. The upper section of the ingot which is most contaminated with non-metallic impurities, can thus by out off. Experimental castings made with the new risers showed satisfactory results. However, their large-scale production was impeded by the low stability of the lining. Therefore, a new variant of the risers was designed (Figure 3) where the uniform suspension of the ingot over the whole perimeter of the mold and riser butt line, is assured by an excess of the cross section of the riser (885 x 790) over that of the mold (865 x 770). Grooves, 50 mm wide, in the riser shell prevent the falling out of the upper rows of the lining, and 50 mm - diameter apertures are provided in the walls for the elimination of gases from internal cavities. Experiments showed that risers lined with straight bricks were not less stable than those lined with shaped bricks. Their use will reduce rejects due to contaminations with non-metallic impurities. There are 3 figures.

ASSOCIATION: Zavod "Azovstal'" (Azovstal' Plant); Zhdanovskiy metallurgiches-kiy institut (Zhdanov Metallurgical Institute).

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Riser with an air gap in the wall

Figure 3:

Riser with an air gap in the wall

S/130/61/000/005/003/005
A006/A101
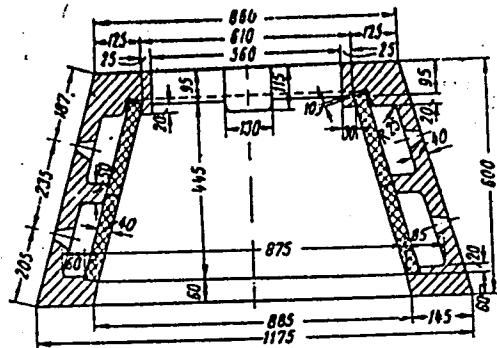
Puc. 3. Прибыльная надставка с воздушным за-
зором в стенке

Card 4/4

VASIL'KOVSKIY, A. A.

Dissertation: "The Progpagation and Absorption of Radiation in a Many-Layer,
Thin-Wall Plate." Cand Phys-Math Sci, Odessa State U, Odessa, 1953. (Referativnyy
Zhurnal--Fizika--Moscow, Apr 54)

SO: SUM 243, 19 Oct 1954

FD-3213

USSR/Physics - Optics. Reflection

Card 1/1   Pub. 153-22/28

Author   :   Vasilkovskiy A. A.

Title   :   Theory of optic computation of multiple periodic laminae

Periodical :   Zhur. Tekh. Fiz., 25, No 7, 1326-1331, 1955

Abstract   :   Formulas are derived for amplitude coefficients of passing and reflection
and their ratios, applicable to optic computation of multiple laminae, con-
sisting of periodically recurrent laminae combinations. Ten references,
including 4 foreign.

Institution: --

Submitted :   July 21, 1954

VASIL'KOVSKIY, A.A.

Calculation of a thin, multilayer plate as a one-layer plate with
effective refraction index. Opt. i spektr. 2 no.2:229-235 F '57.
(MIRA 10:3)

(Refraction)

SOURCE CODE: UR/0413/66/000/013/C033/0033

ACC NR: AP6025595

INVENTORS: Vasil'kovskiy, A. A.; Nechipurenko, V. V.; Sokolenko, V. I.

ORG: none

TITLE: Multilayer film Hall emf detector. Class 21, No. 183248

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 13, 1966, 33

TOPIC TAGS: Hall effect, hf component, *electromagnetic property*

ABSTRACT: This Author Certificate presents a multilayer film Hall emf detector according to Author Certificate No. 119556. To use the detector for measuring high frequency power, capacitors deposited between the current electrodes of neighboring layers are connected in parallel relative to the controlling current in the loops joining the remaining layers of the detector (see Fig. 1).

Fig. 1. 1 – detector layers; 2 – capacitors
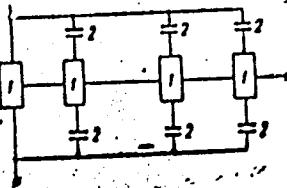
Orig. art. has: 1 diagram.

SUB CODE: 09/   SUBM DATE: 05Apr65

UDC: 621.317.7

Card 1/1

VASIL'KOVSKIY, D.N., GOROVITS, T.T., SHTEYN, V.K.

Methods of producing prints of thin wires by the use
of polystyrene and quartz. Trudy SAGU no.148:23-28 '59.
(MIRA 13:7)

(Electric wire--Testing)

S/081/60/000/021/002/018
A005/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 21, p. 29, # 83515

AUTHOR: Vasil'kovskiy, D. N.

TITLE: The Determination of Grain Orientation in Cubic System Crystals From Chemical Etching Patterns in Microscopical Investigations

PERIODICAL: Tr. Sredneaz. un-ta, 1959, No. 148, pp. 29-44

TEXT: The proposed method is based on the utilization of the spherical-polar coordinate system. In case of a facecentered cubic crystal lattice (when directions [100], [010], [001], mutually orthogonal are the edges of the etching patterns), the method consists in the superposition of the intersection line of the axes $<100>$ with the center of the coordinate sphere in such a manner that the image plane of the microscope should coincide with the plane of the base ("equatorial") sphere circle and the intersection point of the first of the with the sphere surface should be the pole of reckoning the "longitude". The specified choice of the coordinate system reduces the problem of determining the crystallographic indices of the basic circle plane to the calculation of the

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S/081/60/000/00?/00?/00?
A005/A001

The Determination of Grain Orientation in Cubic System Crystals From Chemical
Etching Patterns in Microscopical Investigations

"latitudes" of the mutually othogonal intersection points of the sphere with the
axes $\langle 100 \rangle$ from their known longitudes λ_1, λ_2, λ_3. The additional superposi-
tion of the "north pole" of the sphere with the point of its intersection with its
primary axis and the application of the known formulae of spherical trigonometry
leads to the required relation: $\cos p_i = \sqrt{ctg\,\alpha\,_j ctg\,_k}$; i, j, k = 1, 2, 3;
where $\Delta_i = |\lambda_j - \lambda_k|$ are the angles between the projections of the etching pattern
edges onto the microscope image plane and an arbitrary straight line in this plane
(as an example, the thread axis in the investigation of thin wires), and p_i are
the latitudes of the intersection points of the axes with the sphere. In particu-
lar, the crystallographic indices of the thread axis can be determined from the
formulae: $\cos l_i = \sin p_i \cos \lambda_i$, where l_i are the angles between the thread
axis and the crystallographical axes. The more intricate indication of crystals
having a bodycentered cubic lattice is accomplished by the analogous method
of the successive determination of the projections of the edges $\langle 111 \rangle$ of the
rhomododecahedral etching patterns and the projections of the axes $\langle 100 \rangle$.
Nomographs are added for the actual computation by the theoretical formulae; the
the question of errors at their utilization is considered.   A. Levin
Translator's note: This is the full translation of the original Russian abstract.
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21585

S/109/60/005/010/008/031

E240/E435

24,7400 (1035, 1160, 1164, 1385)

AUTHORS: Azizov, U.V., Vasil'kovskiy, D.N. and Sultanov, V.M.

TITLE: The Preparation and Indexing of Large Monocrystalline
Tungsten Cathodes

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.10,
pp.1631-1635

TEXT: This paper was presented at the 9th All-Union Conference
on Cathode Electronics in Moscow, October 1959.

Methods are described for making large single crystals of tungsten
from which can be made flat, spherical or cylindrical cathodes.
Such cathodes are required for experimental work, as for example
the measurement of work functions, heats of absorption and the
study of surface diffusion.   It was found that a fine-grained
tungsten powder was necessary as a raw material, for best results.
The following process enabled powders with an average grain size of
one micron to be prepared; industrial grades have mean grain sizes
of several microns.   A quantity of tungstic anhydride is reduced
in a nickel boat, which is drawn through a hydrogen tube furnace
with a range of temperature increasing from 550 to 900°C.   During
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The Preparation and Indexing ...

this process an unspecified amount of the anhydride is reduced to 50 g of tungsten. The tungsten powder is then pressed into rods, after sieving, which are then sintered for 5 hours at 800 to 900°C. Difficulties were experienced due to water vapour contamination of the furnace hydrogen supply, and an increase in temperature which occurred. It was found that the best crystals grew in the parts of the rods where the temperature gradient was greatest, i.e. at the ends. For this reason, the rods were shortened from 500 to 120 - 220 mm. Their cross-sections ranged between 11.4 x 6.8 mm and 11.4 x 10.2 mm. To obtain the largest crystals, it was found necessary to increase the sintering time, while maintaining a slow rise in temperature. Details are then given of the next stage of the process in the course of which currents up to 3600 A are passed through the rods for 2 hours followed by cooling for 5 minutes. The reader is referred to earlier work (Ref.1) for a more detailed description of the technique. It was found that about 10% of the rods contained single crystals 2 to 5 cm in length, which occupied the whole cross-section of the rod. In the majority of the remainder, smaller crystals were obtained, which were sometimes separated by fine-grained metal. No consistent

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The Preparation and Indexing ...   E240/E435

rules appeared to govern the orientations of the crystals within
the rods.   The crystals can be picked out by the naked eye, after
the surface has been etched.   Some mosaic structure appears on
the surfaces of the crystals, accompanied by a change in
crystallographic orientation; however, this is less evident if·
several microns of metal are first removed.   The dimensions of the
mosaic elements are of the order of three to seven microns.
Pores were also discovered within the metal.   The homogeneity of
the crystal may be judged by means of the Schottky effect.   The
specimen is inspected before and after heat-treatment; however,
the appearance of a wavy structure on the surface may cause
complications.   A discussion then follows on the relative stability
of various facets of a crystal and reference is made to the work of
I.N.Stranski and R.Suhrmann (Ref.3) who postulated the additivity
of interatomic forces, and that they decreased rapidly with distance.
The surface energy of a facet, being a function of the number of
broken bonds, will increase with any deviation in its orientation.
The following expression for the surface energy density may be
obtained:

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2241/E435

$$E = E_1 \left\{ \cos p - \frac{r \sin p}{\sin S_1} \left[\operatorname{ctg} S_2 \sin (S_1 - \lambda) + \operatorname{ctg} S_3 \sin \lambda \right] \right\} +$$
$$+ E_2 \frac{\sin p \sin (S_1 - \lambda)}{\sin S_1 \sin S_2} + E_3 \frac{\sin p \sin \lambda}{\sin S_1 \sin S_3} . \qquad (1)$$

where p and λ are the polar angle and width defining the macro-orientation of the facet under consideration. The specific surface energies of the stable facets closest to it, with coordinates (0, 0), $(S_2, 0)$ and (S_3, S_1), are correspondingly equal to E_1, E_2 and E_3. It is noted that the value of E_i, the interatomic force, does not affect the form of the equation. From this it is shown that it is theoretically possible for a stepped crystal structure to occur; but this is rarely found in practice. Further, it is argued that it is better to cut crystals to the desired form, rather than to rely on existing facet surfaces. A method for producing large single crystal tungsten cathodes by mechanical working is described by S.T.Martin (Ref.4: Phys.Rev., 1939, Vol.56, 947). However, the authors found that electro-spark cutting, followed by polishing and electro-polishing, gives

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The Preparation and Indexing ...

a far less laborious method of preparing cathodes. This method
enabled a 1 cm diameter hemispherical cathode to be made for the
Martin projector in a few hours, as opposed to the 4 - 5 weeks
required for the mechanical machining method. A brief
description is then given of various methods for determining the
crystallographic orientation of a crystal. This can be done either
by etching the crystal, which gives rise to clearly-visible marks
bounded by the facet {110}. By measuring the angles between these
marks, the spatial orientation can be defined (Ref.5). To find
the {110} facet, a light-reflection method can be employed, while
if the {100} facet is required, the cleavage of the crystal along
this plane can be utilized. Such a fracture is readily
distinguished from the conchoidal intercrystalline fracture.
A suggested explanation of the fact that the crystal tends to
break along the {100} plane, rather than the {110} plane, is
then given. It would be expected, from energetic considerations,
that cleavage would occur preferentially along the latter. It can
be shown that one dislocation with a Burger's vector of a $[100]$
is more stable than an equivalent pair of dislocations with
vectors $\frac{a}{2}[1\bar{1}1]$ and $\frac{a}{2}[11\bar{1}]$. If it is postulated that a cleavage
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The Preparation and Indexing ...

is the result of a series of similar linear dislocations, then
from the above it is evident that the fracture will occur in the
[100] plane, as it does.   There are 4 figures and 5 references:
2 Soviet and 3 non-Soviet.

SUBMITTED: December 21, 1959

Card 6/6

S/181/62/004/001/015/052
B125/B104

AUTHORS: Vasil'kovskiy, D. N., and Tadzhiyeva, E. M.

TITLE: The occurrence of a particular surface structure on wires
             annealed with direct current

PERIODICAL: Fizika tverdogo tela, v. 4, no. 1, 1962, 90 - 95

TEXT: According to Shmidt (G. N. Shuppe. Elektronnaya emissiya
metallicheskikh kristallov - Electron emission of metal crystals - Izd.
SAGU, Tashkent, 1959), there exists a relationship between the surface
structure formed by vacuum annealing of drawn tungsten wires for 20 to 30
min at 2000°K and the orientation of the original structure. The axis of
the wire is a second-order axis of symmetry of the new structure. The
size of the steps formed on the surface during annealing is dependent on
the temperature of their formation. To investigate these phenomena more
closely, pieces of tungsten wire of the type ßA-3 (VA-3) with an initial
diameter of 170μ were electrically polished, and annealed at 2000 - 2600°K
for 10 - 300 hrs. Microscopic examination (magnification, 500 - 2000
times) of the surface of several dozen wires with the aid of a goniometric

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